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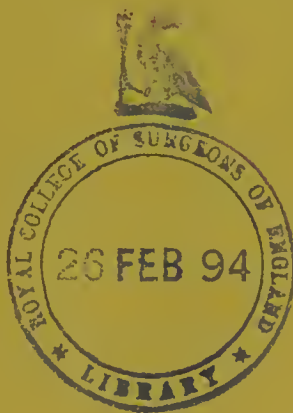
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A CASE OF RINGWORM OF THE SCALP SIMULATING
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THE following case serves to show that it is possible for tinea tonsurans to produce a patch of baldness clinically indistinguishable from alopecia areata.

The patient, a boy seven years of age, came to my clinic a week ago with a perfectly bald spot on the top of the head about two inches in diameter. His hair was of a light brown color and thickly covered the remainder of the scalp. Upon very careful inspection no other bald patches, scaly points or patches of any kind could be found; he was perfectly well as far as could be ascertained, and no history of previous illness, traumatism, neuralgia, etc., could be elicited. The cutaneous surface was perfectly free from eruption.

The bald patch in question was situated upon the centre of the vertex, its posterior edge occupying the position of the so-called "crown"; its transverse diameter was a trifle less than the antero-posterior.

From the clinical features one would not hesitate a moment in making the diagnosis of alopecia areata. The surface of the patch was perfectly smooth and white, absolutely devoid of scales, the mouths of the empty hair follicles could be seen only with a glass, and there was not even a trace of a downy growth. Around the edge of the bald patch were characteristic stubs of alopecia areata from $\frac{1}{32}$ to $\frac{1}{16}$ inch in length, with the apparently enlarged distal extremity which has warranted for them the appropriate name of "exclamation point" stubs. The hair immediately surrounding the patch came out easily by slight traction with the fingers.

The history of the case was quite different from that which generally accompanies alopecia areata. The disease began six months ago as a small, scaly papule which gradually enlarged to the size of a little finger nail before the hair fell out. The mother states that it was red and scaly, and not smooth as at present, but as the patch grew slowly larger it lost its "mussed up" appearance, as she called it, and became smooth and shiny. I was also able to obtain an undoubted history of contagion, there being several children in the house with scaly spots upon the scalp. The mother jokingly said "Our old black cat even had a spot fall out on her leg."

On the strength of the above history, I took several of the stubs for microscopical examination and took the trouble to visit the above-mentioned children.

Among the half dozen or more short hairs which were obtained and placed in a mixture of equal parts of glycerine and liquor potassa, there was one in which the root-sheath came out entire. By careful focussing there could be seen numerous small spore-like bodies within the sheath and scattered through the sheath substance. They were rather indefinite in outline, and in some situations presented a granular appearance. The slide was put into a warm place and left three or four days, when it was again examined and quite a different picture was seen. That which was at first indefinite and presented a granular appearance had developed into masses of regularly formed, small, round spores, differing in no respect from those of trichophyton tonsurans, although they were a trifle larger than those ordinarily seen. The root-sheath was almost completely filled and permeated with these spores which completely surrounded the hair root but did not penetrate the hair substance. No mycelium could be found upon the closest and most careful examination.

Dr. Bulkley kindly examined the specimen and pronounced it as unquestionably an example of the trichophyton fungus.

Besides this direct evidence of the true nature of the disease, some of the other hairs were found to present the brush-like extremity so commonly observed in hair affected with the ringworm fungus. On the other hand there were hairs differing in no respect from those found in alopecia areata, characterized by a shaft of irregular calibre due to atrophy, by the irregular deposits of pigment scattered through it and by the peculiar atrophied and more or less pointed hair root.

Upon visiting the house where the patient lived two children

were found living on the same floor affected with true ringworm, one, a boy of five years, had several characteristic scaly patches upon the scalp, covered with broken and twisted hairs; the other, a girl of eight years, had a small ringed patch with clear centre and raised, red, scaly periphery on the left side of the neck, and another irregularly ringed patch of the same description upon the right upper arm. There was no trace of the disease on the scalp in this latter case.

On the floor below, there was a little girl four years of age who had a single, small, scaly patch of ringworm on the scalp. By an examination of the hairs and scales taken from these cases abundant fungus of the trichophyton variety was found.

The black cat above spoken of had a bald patch on the right hip, over about one-half of which there was a new growth of perfectly white hair; the spot was smooth and white and free from scales. There was no appearance of a scar and they were all positive there had not been a sore there, for it would have been quickly noticed as the cat was a great pet and was constantly being fondled by the children. Careful examination of hairs and scrapings revealed no evidence of fungus of any kind.

It was impossible to ascertain the order in which these cases became infected, for each family accused the other of being responsible for the trouble.

One can see, I think, how readily this case would pass for one of alopecia areata, with history of contagion, and I should be inclined to think that some, at least, of the reported cases of alopecia areata of the so-called parasitic variety, giving a distinct history of contagion, were cases of this character. Even Hillier¹ says of the forty-three cases of alopecia areata infected in a parochial school of 1,100 children at Hanwell, "in the root-sheaths of two or three hairs I found a number of oval and quadrangular cells placed end to end, or clustering together like vegetable spores." He thought they could not be fungus elements for they were a little larger than those ordinarily seen in ringworm. We know now that the spores of the trichophyton fungus vary very much in size, and consequently little reliance can be placed upon this feature.

In the several cases of alopecia areata which Crocker observed in members of the same family with direct history of contagion, he says he found in the hairs about the border of some of the patches "fungus elements indistinguishable from those of *tinea tonsurans*."

¹ Hillier, "Handbook on Diseases of the Skin," 1870, p. 278.

Whether there are cases of alopecia areata due to some specific micro-organism remains yet to be proven, though it seems hard to understand how a parasite of any kind can produce such sudden falling of the hair with production of bald patches, as we invariably observe in cases of true alopecia areata.

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